Correlates and Predictors of Acceptance of Pharmacogenetic Testing in Malaysian General Population

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Introduction

Pharmacogenetic testing is a DNA-based test that identifies individual's genetic variants associated with drug response or the risk of drug-related adverse events.[1] In another words, it has been defined as the study of variability in drug response due to heredity.[2]

Pharmacogenetic testing aims at applying concepts, theories and techniques from the field of genome coding expression theory to problems from the field of genetic variation between individuals.[3]

Therefore, genome profile of each individual and the variability can be studied by implementing genotyping technology, genetic research and genomic studies into clinical practice in order to foresee the differences in medication response to a given treatment and facilitate medication therapy.[3]

DNA-based tests help to improve drugs selection, identify optimal dosing, maximize drug efficacy or minimize the risk of toxicity and adverse events and thus potentially reduce the cost of drug development, total healthcare and patient spending in order to achieve personalised therapeutic treatment.[4,5]

Objectives

- Clinical use of pharmacogenetic testing has the potential to improve patient health outcomes. However, public acceptance is essential for the successful integration of pharmacogenetic testing into routine clinical care.
- This study assessed the factors associated with acceptance of pharmacogenetic testing among the general public in Malaysia.

Methodology

Study Design, Sample Size

- A descriptive cross–sectional survey method was conducted among 385 adult participants who are 18 years or older and literate (i.e. speaking, reading and writing).

Sampling, setting

- 385 adult participants were randomly selected in eight administrative districts in the Federal Territory of Kuala Lumpur, Malaysia.
- Using a combination of stratified random sampling and convenience sampling.

Questionnaire Pre-testing

- A structured pre-tested questionnaire was used to collect the study data.

Questionnaire Development

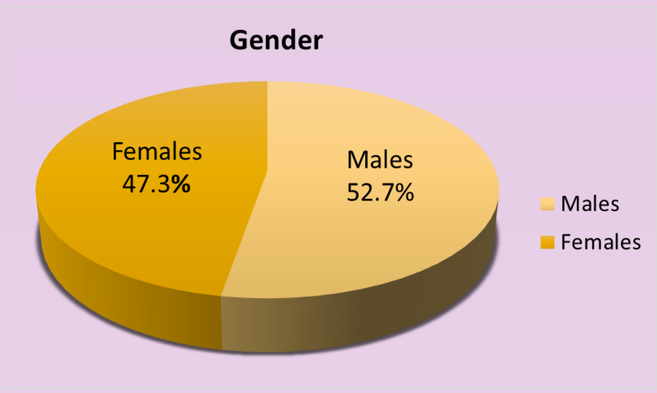
- The questionnaire comprised 37 questions on sociodemographic information, health status and medicines use experience, knowledge and awareness about pharmacogenetics, attitude and concerns toward pharmacogenetics, and acceptance of pharmacogenetic testing.

Data analysis

- Univariate (Chi square test or spearman's correlation) and multivariate logistic regression analyses were performed.
- Outcome measure was acceptance of pharmacogenetic testing. The level of statistical significance was set at $p < 0.05$.

Results

Pie Chart 1 shows the percentage of gender participate in the study.



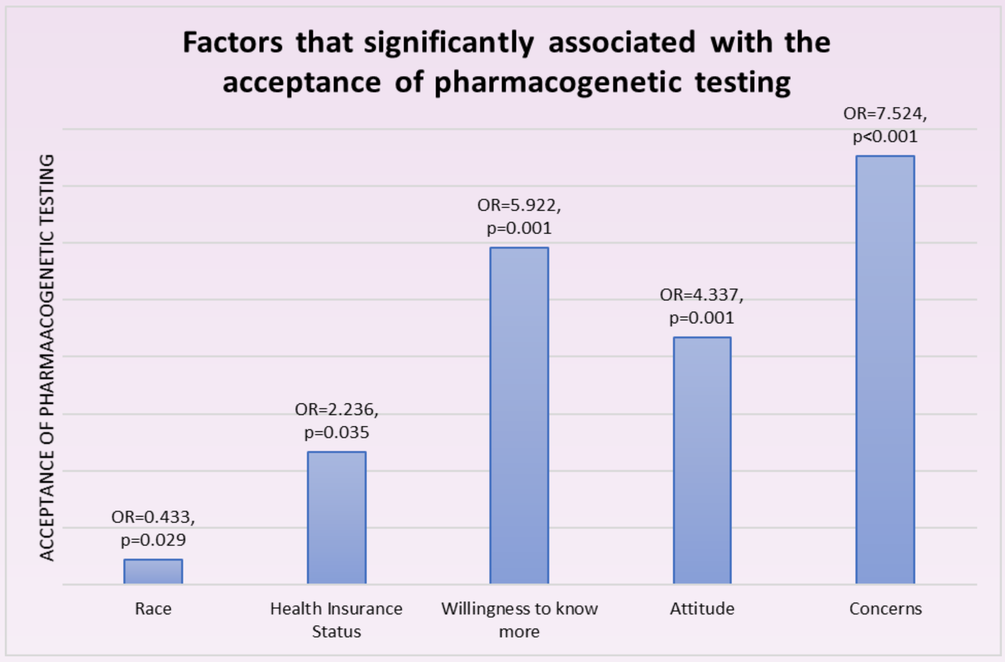
A majority (77.7%) of the participants were willing to accept pharmacogenetic testing.

Below shows the factors that were significant correlates of acceptance of pharmacogenetic testing.

- Race
- Marital Status
- Health Insurance Status
- Knowledge and Awareness
- Past experience of regarding efficacy and side effects of medicines
- Willingness to know more
- Attitude
- Concerns

→ Acceptance of Pharmacogenetics Testing

Table 1 shows the factors that significantly associated with the acceptance of pharmacogenetic testing.



Conclusion

Public acceptance of pharmacogenetic testing is influenced by sociodemographic and behavioural factors. Increased knowledge about pharmacogenetic testing may enhance the acceptance of pharmacogenetic testing among the general public.

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